REMARKS

Upon entry of this amendment, claims 1-25 and 28-30 will be in the application, with Claims 1, 14, 17, 23, and 28 having been amended. Claims 1, 14, 17, 23, and 28 are the independent claims herein. No new matter has been added. Entry of this amendement and further examination are respectfully requested.

Claim Rejections

Claims 1-13 are rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 5,559,881 ("Sih"). Claims 14-25 and 28-30 are rejected under 35 USC § 103(a) as being unpatentable over U.S. Patent No. 6,768,796 ("Lu") in view of U.S. Patent No. 5,029,121 ("Kawata"). Reconsideration and withdrawal of the rejections are respectfully requested.

Claim 1

Amended independent claim 1 recites a signal modification method that comprises receiving an input signal at an input of a filter, dynamically scaling a binary range associated with one or more taps of the filter to a value of a high amplitude of a portion of that input signal, storing a value corresponding to a second portion of the input signal in association with one of the taps according to the scale, and modifying the input signal by an amount commensurate with the stored portion of the input signal.

The art of record is not seen to disclose or to suggest the above-mentioned features of amended independent claim 1. In particular the art of record is not seen to disclose or to suggest, "dynamically scaling a binary range associated with one or more taps of a filter to a value of a high amplitude of a portion of an input signal."

The system disclosed in Sih uses a threshold value to determine if samples will be attenuated by a pre-determined amount. If, for example, samples can range from -8031 to 8031 then the system might automatically attenuate an input signal by 1.5 dB whenever samples rise above 7900 (e.g., to improve echo cancellation when someone is shouting). Col. 17, lines 21-33.

Thus, Sih does not disclose "dynamically scaling ... to a value of a high amplitude portion" of a received input signal as recited in claim 1. The other references also fail to disclose such an element.

Nor are such elements obvious in view of any of the references. By dynamically scaling to a value of a high amplitude portion as recited in claim 1, a resolution associated with a stored sample may be improved. In contrast, attenuating a received input signal as disclosed in Sih will not improve a resolution associated with a stored sample.

Applicants therefore respectfully request allowance of claim 1 (along with claims 2 through 13 dependent thereon).

Claims 14, 17, 23, and 28

Amended independent claim 14 recites a method of dynamically scaling a value associated with a finite impulse response filter tap to an echo amplitude. The method comprises determining a range of values that may be held in binary in association with the tap, determining a range within which a normal echo amplitude portion of an audio signal falls, and dynamically scaling the range of values that may be held in binary in association with the tap to the range within which normal echo amplitude falls.

The art of record is not seen to disclose or to suggest the above-mentioned features of amended independent claim 1. In particular the art of record is not seen to disclose or to suggest, "dynamically scaling the range of values that may be held in binary in association with the tap to the range within which normal echo amplitude falls."

The system disclosed in Kawata, at column 1, lines 33 through 41, describes coefficient registers 2-1 through 2-5. The coefficient data are loaded into the registers through the CPU interface and are multiplied by a corresponding data signal. Thus, the coefficient data, as described in Kawata, are only loaded, stored and then multiplied.

Accordingly nowhere can Kawata possibly be seen to disclose or to suggest, "dynamically scaling the range of values that may be held in binary in association with the tap to the range within which normal echo amplitude falls." Lu also does not disclose any such dynamic scaling.

In view of the foregoing, amended independent claim 14 and its related dependent claims are believed to be in condition for allowance.

Amended independent claims 17, 23, and 28 roughly correspond to the method of claim 14. In view of the foregoing, amended independent claims 17, 23, and 28 and their respective dependent claims are believed to be in condition for allowance.

CONCLUSION

The outstanding Office Action presents a number of characterizations regarding the applied references, some of which are not directly addressed by this response. Applicants do not necessarily agree with the characterizations and reserve the right to further discuss those characterizations.

For at least the reasons given above, it is submitted that the entire application is in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience. Alternatively, if there remains any question regarding the present application or any of the cited references, or if the Examiner has any further suggestions for expediting allowance of the present application, the Examiner is kindly invited to contact the undersigned via telephone at (203) 972-4982.

Respectfully submitted,

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Date

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